

1 10. A method of performing a rebalancing operation upon a tree
2 data structure comprising the steps of:

3 (a) allowing a sub-tree of the tree data structure to grow
4 unbalanced to a threshold level greater than one;

5 (b) developing, in the case where the sub-tree reaches the
6 threshold level, first and second sets of rebalancing
7 operation tasks, the first and second set of
8 rebalancing operation tasks operable to effect a first
9 and second set of element state transitions
10 respectively;

11 (c) performing the first set of operation tasks in a first
12 phase; and

13 (d) performing the second set of operation tasks in a
14 second phase.

1 11. The method of claim 10 wherein the threshold level is $\log_2 n$
2 for a tree data structure having about n nodes.

1 12. A process for maintaining the balance of a tree data
2 structure comprising:
3 (a) monitoring a length of a sub-tree of the tree data
4 structure; and
5 (b) rebalancing the tree data structure when the length of
6 the sub-tree reaches a level greater than one.

1 13. A system for deferring the rebalancing of a tree data
2 structure comprising:
3 (a) a memory for storing the tree data structure; and
4 (b) a processor coupled to the memory, the processor
5 operable to track the performance of operations upon
6 the tree data structure and rebalance the tree data
7 structure when an unbalanced sub-tree of the tree data
8 structure reaches a threshold level greater than one.

1 14. The system of claim 13 wherein the threshold level is $\log_2 n$
2 for a tree data structure having about n nodes.

1 15. A system for deferring the rebalancing of a tree data
2 structure comprising:

- 3 (a) a means for storing the tree data structure; and
4 (b) a means for tracking the performance of operations
5 upon the tree data structure and rebalancing the tree
6 data structure when an unbalanced sub-tree of the tree
7 data structure reaches a threshold level greater than
8 one.

16. A computer readable medium for deferring the rebalancing of
a tree data structure, the computer readable medium comprising:

- (a) a code segment for tracking the performance of
operations upon the tree data structure; and
(b) a code segment for rebalancing the tree data structure
when an unbalanced sub-tree of the tree data structure
reaches a threshold level greater than one.